

WHAT IS CLAIMED IS:

1. A diagnostic support apparatus comprising:  
diagnostic support content storage means for  
storing a plurality of diagnostic support contents for  
5 providing diagnostic support;

selection means for selecting a desired diagnostic  
support content from the plurality of diagnostic  
support contents stored in the diagnostic support  
content storage means;

10 information acquisition means for acquiring  
diagnostic information concerning at least one of a  
patient, an examination, and an image from a medical  
system;

diagnostic support information creating means for  
15 creating diagnostic support information on the basis  
of the diagnostic support content selected by the  
selection means and the diagnostic information acquired  
from the medical system; and

diagnostic support information display means for  
20 displaying the diagnostic support information created  
by the diagnostic support information creating means.

2. A diagnostic support apparatus according to  
claim 1, wherein

the diagnostic support apparatus is constituted by  
25 a plurality of computers connected to each other  
through a line, and further comprises

transmission means for transmitting the stored

diagnostic support content, and

reception means for receiving the diagnostic support content transmitted from the transmission means, and

5           the diagnostic support information creating means creates diagnostic support information on the basis of diagnostic information acquired from the medical system and the diagnostic support content received by the reception means.

10           3. A diagnostic support apparatus according to claim 2, further comprising

diagnostic support content creating means for creating diagnostic support content,

15           transmission means for transmitting a diagnostic support content created by using the diagnostic support content creating means, and

reception means for receiving the diagnostic support content transmitted from the transmission means.

20           4. A diagnostic support apparatus according to claim 3, wherein

the apparatus further comprises

25           diagnostic support content creating means storage means for storing the diagnostic support content creating means,

transmission means for transmitting diagnostic support content creating means stored in the diagnostic

support content creating means storage means, and  
reception means for receiving the diagnostic  
support content creating means transmitted from the  
transmission means, and

5           creates diagnostic support content by using the  
received diagnostic support content creating means.

5. A diagnostic support apparatus according to  
claim 3, wherein

          the diagnostic support content creating means  
10       further comprises storage means for storing first  
diagnostic support content, and

          creates second diagnostic support content by using  
the first diagnostic support content and the diagnostic  
information.

15           6. A diagnostic support apparatus according to  
claim 2, wherein

          the diagnostic support content storage means and  
the transmission means constitute a diagnostic support  
server, and

20           the information acquisition means, the reception  
means, the diagnostic support information creating  
means, and the diagnostic support information display  
means constitute a diagnostic support execution  
terminal.

25           7. A diagnostic support apparatus according to  
claim 6, further comprising a diagnostic support  
content creating terminal including diagnostic support

content creating means for creating the diagnostic support content, and transmission means for transmitting, to the diagnostic support content server, diagnostic support content created by using the  
5 diagnostic support content creating means.

8. A diagnostic support apparatus according to claim 7, wherein

the apparatus comprises a diagnostic support content creating means server including diagnostic support content creating means storage means for  
10 storing the diagnostic support content creating means, and transmission means for transmitting the diagnostic support content creating means to the diagnostic support content providing terminal, and

15 the diagnostic support content creating terminal comprises diagnostic support content reception means for receiving the transmitted diagnostic support content creating means, and

creates diagnostic support content by using the received diagnostic support content creating means.  
20

9. A diagnostic support apparatus according to claim 6, wherein

the apparatus comprises detection means for detecting that diagnostic support content stored in the diagnostic support content storage means is at least  
25 updated or added, and

transmits the diagnostic support content on the

basis of a detection result obtained by the detection means.

10. A diagnostic support apparatus according to claim 7, wherein

5           the diagnostic support content creating terminal comprises information acquisition means for acquiring diagnostic information concerning at least one of a patient, an examination, and an image from a medical system, and

10           storage means for storing first diagnostic support content, and

          creates second diagnostic support content by using the first diagnostic support content and the diagnostic information.

15           11. A diagnostic support apparatus according to claim 1, wherein

          the diagnostic support information creating means comprises characteristic value calculation means for calculating a characteristic value from a medical image contained in the diagnostic support information, and

20           creates diagnostic support information based on the characteristic value calculated by the characteristic value calculation means.

          12. A diagnostic support apparatus according to claim 11, wherein

25           the diagnostic support information creating means further comprises identification/classification means,

and

creates diagnostic support information based on an  
identification/classification result using the  
characteristic value calculated by the characteristic  
value calculation means.

13. A diagnostic support method of providing  
diagnostic support comprising:

a step of acquiring diagnostic support content;

a step of inputting diagnostic information  
concerning at least one of a patient as a diagnostic  
support target, an examination, and an image;

a step of creating diagnostic support information  
using the diagnostic support content and the diagnostic  
information; and

a step of displaying the diagnostic support  
information.

14. A diagnostic support method according to  
claim 13, further comprising

a step of creating the diagnostic support content,  
and

a step of transmitting the diagnostic support  
content to another computer.

15. An information processing apparatus  
comprising:

storage means for storing processing data  
constituted by at least one image data, character  
string data, and numerical value data;

graph creating means for creating graph  
information from the numerical value data;

image list information creating means for creating  
image list information from the image data;

5           table list information creating means for creating  
table list information from the character string data  
and the numerical value data;

display means for displaying the graph informa-  
tion, the image list information, and the table list  
10           information;

selection means for selecting information  
displayed on the display means; and

information management means for managing the  
graph information, the image list information, and the  
15           table list information displayed on the display means.

16. An information processing apparatus according  
to claim 15, wherein

the information management means changes, when one  
or a plurality of graph elements on the graph informa-  
20           tion are selected by the selection means, display of an  
image corresponding to the selected graph element in  
the image list information, and display of a table item  
corresponding to the selected graph element in the  
table list information,

25           changes, when one or a plurality of images on the  
image list information are selected by the selection  
means, display of a graph element corresponding the

selected image in the graph information, and display of a table item corresponding to the selected image in the table list information, and

changes, when one or a plurality of table items on  
5 the table list information are selected by the selection means, display of a graph element corresponding to the selected item in the graph information, and display of an image corresponding to the selected item in the image list information.

10 17. A diagnostic support apparatus for supporting a diagnosis by an examiner, comprising

image storage means for storing image data input from an endoscopic device, characteristic value calculation means for calculating at least one  
15 characteristic value to quantify a finding associated with a diagnosis from image data stored in the image storage means, and diagnostic support information display means for displaying diagnostic support information on the basis of a calculation result  
20 obtained by the characteristic value calculation means, the characteristic value calculation means including

blood vessel extraction means for extracting a transmission blood vessel image in the image data  
25 stored in the image storage means; and

blood vessel characteristic value calculation means for representing a running state of a see-through



blood vessel image as a characteristic value on the basis of an output from the blood vessel extraction means.

18. A diagnostic support apparatus according to  
5 claim 17, wherein

the blood vessel extraction means comprises  
gradient information detection means for detecting  
density gradient information of image data recorded on  
the image recording means,

10 shape edge detection means for detecting a shape  
edge based on a shape of a living body on the basis of  
an output from the gradient information detection  
means,

blood vessel candidate extraction means for  
15 extracting a blood vessel image as a see-through blood  
vessel image candidate, with respect to at least one  
color signal, from image data constituted by a  
plurality of color signals, and

separation means for separating a desired  
20 see-through blood vessel image from the shape edge on  
the basis of outputs from the shape edge detection  
means and the blood vessel candidate extraction means.

19. A diagnostic support apparatus according to  
claim 17, wherein

25 the blood vessel candidate extraction means  
comprises

edge information detection means for detecting

edge information, with respect to at least one color signal, from image data constituted by a plurality of color signals and stored in the image storage means, and

5           color tone information calculation means for calculating a value associated with a color tone, with respect to at least one color signal, from image data constituted by a plurality of color signals and stored in the image storage means, and

10           extracts a blood vessel candidate on the basis of outputs from the edge information detection means and the color tone information calculation means.

20. A diagnostic support apparatus according to claim 18, wherein the gradient information detection  
15       means detects density gradient information of each of image data constituted by a plurality of color signals and stored in the image storage means, and the shape edge detection means detects the shape edge on the basis of threshold processing for a linear sum between  
20       density gradient information of a plurality of color signals output from the gradient information detection means.

21. A diagnostic support apparatus according to claim 19, wherein the separation means extracts only  
25       image information of a shape edge portion on the basis of shape edge image information output from the shape edge detection means and blood vessel candidate image

information output from the blood vessel candidate  
extraction means, detects blood vessel candidate image  
information based on the shape edge by performing  
expansion processing of image information of the shape  
5 edge portion on the basis of the blood vessel candidate  
image information, and removes the shape edge portion  
having undergone the expansion processing from the  
blood vessel candidate image information.

22. An diagnostic support apparatus according  
10 to claim 19, wherein the color tone information  
calculation means sets a value calculated by  $R/(R + G + B)$   
as a value associated with a color tone when the  
plurality of color signals comprise R, G, and B.